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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,169	12/11/2003	Peiguang Zhou	KCX-652 (18776)	5949
22827	7590	09/19/2008	EXAMINER	
DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			COLE, ELIZABETH M	
			ART UNIT	PAPER NUMBER
			1794	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/733,169	Applicant(s) ZHOU ET AL.	
	Examiner Elizabeth M. Cole	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 0625.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-91 is/are pending in the application.
- 4a) Of the above claim(s) 9-11, 13-16, 19, 20, 32-34, 37-40, 54, 55, 61 and 64-91 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12, 17, 18, 21-31, 35, 36, 41-53, 56-60, 62, 63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7, 12, 18, 21-22, 26, 29, 35-36, 43-44, 47, 48, 50-51, 53, 56-57, 62 are rejected under 35 U.S.C. 103 (a) as being obvious over WO 93/02610 in view of EP 1,212,974. WO 93/02610 discloses a cleaning material comprising a plurality of plies of absorbent substrates which are stacked and separated from each other by plastic sheets. See Page 3, lines 7-39; page 4, lines 1-5 and figures. The separate absorbent layers can be individually removed by pulling by a user and therefore they are releasably attached. The layers are absorbent and can be made of tissue paper or other natural or synthetic absorbent materials. See page 5, lines 1-4. WO '610 differs from the claimed invention because it does not teach that the stacked, releasably attached absorbent structures further comprise an abrasive layer and does not teach the addition of cleaning elements, the use of stitching as the means of releasably attaching the plies or the presence of perforations in the structure. EP '974 discloses a scrubbing sheet comprising an absorbent material and a plurality of plies of a scrubbing material. The plies may be stitched to the absorbent material. The absorbent material can comprise nonwovens and papers and can be formed from natural or synthetic fibers. EP '974 teaches that cleaning sheets which comprise a plurality of nonwoven layers can comprise meltblown webs, coforms, spunbondeds, carded web, as well as air laid and wet laid webs. Cellulosic layers can be used as the cleaning layers, while synthetic

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polymers can form the scrubbing layers. See paragraphs 0011 – 0026. EP '974 teaches that besides heat and adhesive bonding that stitching can also be used to bond the layers of the cleaning sheet together. See paragraph 0026. The cleaning sheet can comprise various additives such as cleansers, skin conditioners, etc. See paragraphs 0027-0039. The scrubbing layers can be reversibly attached to the absorbent layers and can be superimposed on each other or on different sides of the absorbent layer. See paragraph 0025-0026. Perforations would necessarily be present in the layers due to the stitching which would form holes due to the needle passing through the layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added an abrasive synthetic polymer layer to some or all of the absorbent plies of WO '610 as taught by EP '974, with the expectation that this would further enhance the cleaning and scrubbing properties of the cleaning material. It further would have been obvious to have employed stitching as the means of releasably securing the plies together, since EP '974 teaches that this is a means of securing plies in an absorbent structure and to have added the particular cleaning and conditioning components taught by EP '974, in view of their suitability for the intended purpose. With regard to claim 29, which claims a substrate around which the plies of absorbent and abrasive materials are wrapped, official notice is taken that it is known in the art to wrap plies of cleaning sheets in roll form, for example as in rolls of paper towels, baby wipes, etc. .

3. Claims 5-6, 23-25, 27-28, 30-31. 41-46, 52, 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/02610 in view of EP 121974 as set forth

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above, and further in view of Prodoehl et al, US Patent Application Publication 2003/0029895 and Zafiroglu, U.S. Patent No. 4,704,321. WO '610 and EP '974 disclose a cleaning sheet as set forth above. WO '610 differs from the claimed invention because it does not disclose stitching at the periphery, although it does disclose joining the layers at the edges or periphery, and does not disclose the claimed basis weights and fiber size of the layers. Prodoehl discloses a cleaning sheeting comprising an absorbent core layer which may comprise multiple plies of a material such as cellulosic fibers and which may have a basis weight of 100-2000 gsm. The fibers can have a high surface area. See paragraphs 0035 –0045. A scrubbing layer is disposed on the absorbent core layer. The scrubbing layer can comprise a plurality of plies of material and can comprise fibers having a diameter of 0.1-1 mm and a basis weight of 7-120 gsm. See paragraphs 0025 – 0039. The layers can be stitched at the periphery. See paragraph 0070. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the particular types of fibers for the absorbent and scrubbing layers as taught by Prodoehl, as well as the basis weights and stitching configuration, motivated by the teaching of Prodoehl, that these elements were useful in forming scrubbing implements having an absorbent core. With regard to the limitation that the thread is an elastic thread, while both references teach stitching the layers to bond them, both are also silent as to the particular type of thread to employ to stitch the layer. However, Zafiroglu teaches that it was known in the art to use elastic thread nonwoven absorbent layers for use as wipes. See abstract. Therefore, it would have been obvious to one of ordinary skill in the art to have

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employed the elastic thread taught by Zafiroglu to perform the stitching, in view of the art recognized suitability of elastic threads for the purpose of stitching wipes. Further, it is noted that the prior art references establish that the use of elastic thread to stitch wipes was known in the art and therefore, the known elastic thread could have been combined with the structure of WO '610 with a predictable result.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/02610 in view of EP 121974 as set forth above, and further in view of EP 0066463. EP '974 and WO '610 disclose a cleaning sheet as set forth above. Neither WO '610 nor EP '974 teach aperturing the sheet. EP '463 discloses a cleaning sheet comprising a plurality of plies of cellulosic material. An interlayer of an impermeable film can be placed between the cellulosic plies. See page 4, lines 32-34; page 5, lines 22-32. The layers can be joined by bonding. See page 8, lines 1-19. The plies of cellulosic material comprise a plurality of perforations. The perforations have a size of 0.01-1.2 mm. The perforations are distributed at a rate of 0.5-5 perforations per square centimeter. See page 9, lines 1-13. The apertures can extend through less than the entire thickness of the cleaning sheet. See page 6, lines 9-12. The perforations can extend from one or both sides of the cleaning sheet. See page 8, lines 28-32. One side of the cleaning sheet can comprise a plurality of abrasive structures such as fibers which are bonded to one of the cellulosic plies. Suitable materials for the abrasive fibers include polystyrene, polymethyl methacrylate and polyvinyl chloride. See page 10, lines 15-26. The cleaning sheet may be impregnated with various additives such as soap, detergent, disinfectants, skin treatments, etc. See page 3, lines 11-16. The size and

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depth of the perforations can be controlled to allow for a metered release of the added components. See page 3, lines 17-23. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added perforation to the sheets of WO '610 and EP '974, motivated by the teaching of EP '463 that this would allow the additives such as detergents, etc., to be released from the cleaning sheet in a metered dose.

5. The terminal disclaimers filed on 6/25/08 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration dates of applications 10/745,327; 10/733,162; 10/321,831; 10/321,277; 10/036,736 have been reviewed and are accepted. The terminal disclaimers have been recorded.

6. Applicant's arguments filed 6/25/08 have been fully considered but they are not persuasive.

7. In response to applicant's argument that neither reference teaches the alternating stack of abrasive and absorbent layer, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, WO '610 teaches the stacked plies of absorbent layer which are attached so as to be removable. While WO '610 does not teach providing an abrasive layer on the absorbent layer, EP '974 clearly teaches that absorbent, disposable scrubbing sheets can be formed so that they

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comprise an abrasive scrubbing layer on one or both sides in order to further enhance the cleaning and scrubbing abilities of the cleaning sheets. Therefore, the person of ordinary skill in the art would have been able to apply this teaching of EP '974 to the invention of WO '610 by supplying the absorbent layers of WO '610 with the abrasive layers. Applicant argues that combining the particular embodiments of EP '974 physically with the physical structure of WO '610 would not lead to the claimed structure, however, as set forth above, the combined teachings of the two references would have led the ordinary skilled artisan to supply the absorbent layers in WO '610 with abrasive layers on one side in order to provide the absorbent layers of WO '610 with more scrubbing and cleaning abilities.

8. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

9. With regard to the examiner's statement that it is known to wrap plies of cleaning sheets in roll form, Applicant argues that in the case of the claimed invention the roll is utilized as a whole, it is noted that the instant claims do not recite how the material is

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used. The claims recite the claimed structures configured in a roll. They do not recite how the material is used. Therefore, the rejection is maintained.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

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/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

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